### Module title

**Introduction to Topology**

**Abbreviation**

10-M-TOP-152-m01

### Module coordinator

Dean of Studies Mathematik (Mathematics)

### Module offered by

Institute of Mathematics

### ECTS

5

### Method of grading

(only after successfully completed)

### Duration

1 semester

### Module level

undergraduate

### Other prerequisites

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### Contents

Basics in set-theoretic topology, topological spaces and continuity, separation properties, connectivity, examples and constructions of topological spaces, quotients, convergence of sequences and nets, different notions of compactness, additional topics (optional), e.g. the theorems of Stone-Weierstraß, Arzela-Ascoli and Baire, and introduction to algebraic topology.

### Intended learning outcomes

The student knows the fundamental concepts and methods of topology as well as the pertinent proof methods, is able to apply methods from linear algebra and analysis to topology, and realises the broad applicability of the theory to other branches of mathematics.

### Courses

(type, number of weekly contact hours, language — if other than German)

- **V (2) + Ü (2)**

### Method of assessment

(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German and/or English

creditable for bonus

### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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### Module appears in

- Bachelor’ degree (1 major) Mathematics (2015)
- Bachelor’ degree (1 major) Mathematical Physics (2015)
- Bachelor’ degree (1 major) Computational Mathematics (2015)
- Bachelor’ degree (1 major) Mathematical Physics (2016)